Remarks/ Arguments

Upon entry of the foregoing amendments, claims 1 to 29, 32 to 35, 37 to 45 and 53 to 72 will be pending in the present patent application. Claims 1, 2, 8, 9, 12, 13, 28, 29, 37, 38, 42 and 45 have been amended, without prejudice. Claims 53 to 72 have been added.

Support for the amendments to claims 1, 28, 37,38 and 42 is found in Applicants' specification at, *e.g.*, page 24, lines 20 to 26, and Figure 2.

Support for the amendments to claims 13 and 45 is found in Applicants' specification at, *e.g.*, page 17, paragraph [0062].

Support for new claims 53 to 72 is found in Applicants' specification at, *e.g.*, page 16, paragraph [0056] to page 17, paragraph [0061]. No new matter has been added.

The Action includes rejections under 35 U.S.C. §§ 102(a) and 103(a); and provisional rejections under the judicially created doctrine of obviousness-type double patenting. In view of the following remarks, reconsideration and withdrawal of the rejections are requested respectfully.

Summary of Examiner Interview Held on July 12, 2006

Applicants and their representative, the undersigned, wish to thank Examiner Padgett for the opportunity of a personal interview which occurred on July 12, 2006. During the interview the rejections under 35 U.S.C. § 103(a) of alleged unpatentability over U.S. Patent No.5,935,646 to Raman et al., U.S. patent application Publication No. 2003/0054115 to Albano et al., and U.S. patent application Publication No. 2003/0003288 to Nakata et al. were discussed. In particular, Applicants underscored the fact that the process of the present invention provides a composite film that is substantially free of Si-OH bonds, whereas each of the cited references, in contrast, provides a composite film that ***necessarily comprises*** Si-OH bonds. Examiner Padgett requested a clarifying amendment and a

declaration to provide factual evidence in support of this distinction. In response, the foregoing amendments were made to independent claims 1, 28, 37, 38, and 42 and a declaration by Mark L. O'Neill is submitted herewith. If the Examiner would like to further discuss this information with Applicants, she is invited to contact the undersigned at the number indicated below.

Discussion of the Rejections Under 35 U.S.C. § 112, Second Paragraph

Claims 2, 8, 9 and 29 have been rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter that Applicants regard as their invention. Although Applicants continue to traverse this rejection, the above claims have been amended to render this rejection moot for the sole purpose of advancing prosecution of this patent application.

Discussion of the Obviousness-Type Double Patenting Rejections

Claims 1 to 35 and 37 to 45 have been provisionally rejected under the judicially-created doctrine of obviousness-type double patenting as allegedly being unpatentable over claims 2-26, 31-34, 38-45, and 50-54 of copending Application No. 10/295,568 ("the 568 application"); claims 1-5, 6-8, 13, 27-30, and 39 of copending Application No. 10/404,190 ("the 190 application"); claims 1-6, 8-10, 13, 15, 17-18, 20, 22-23, and 61-67 of copending Application No. 10/409,468 ("the 468 application"); 2-3, 7-16, 19-26, and 39-45 of copending Application No. 10/379,466 ("the 466 application"); and claims 1-14, 20-22, 24-27, and 30 of copending Application No. 10/842,503 ("the 503 application"). The aforementioned applications are currently pending and are assigned to the assignee of the present application. Although Applicants disagree that the claims of the above-identified applications

render the present claims obvious, Applicants request that the provisional obviousness-type double patenting rejections be held in abeyance until the patentability of claims under 35 U.S.C. 103(a) is resolved. Upon some identification of allowable subject matter, a suitable terminal disclaimer will be filed if any of the above-identified patent applications issues before the allowance of the claims of the present application.

Claims 1 to 29, 32 to 35, and 37 to 45 have been rejected under the judicially-created doctrine of obviousness-type double patenting as allegedly being unpatentable over claims 1 to 6, 8 to 10, 15 to 18, 33 to 35, 37 to 48, and 50 of commonly-owned U.S. Patent No. 6,846,515 (formerly, U.S. patent application Serial No. 10/150,798). Although Applicants traverse this rejection for the reasons detailed in their Reply dated February 21, 2006, Applicants submit herewith a Terminal Disclaimer in compliance with 37 C.F.R. § 1.321 to overcome the rejection.

Discussion of the Rejections Under 35 U.S.C. § 103(a)

Claims 1 to 12, 14 to 15, 17 to 30, 32 to 35, and 37 to 41 have been rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over U.S. Patent No. 5,935,646 to Raman et al. ("the Raman patent"), in view of U.S. patent application Publication No. 2003/0054115 to Albano et al. ("the Albano reference"). Applicants respectfully traverse this rejection because there is no evidence of record indicating that those of ordinary skill in the art at the time of the present invention would have been motivated to combine the teachings of the Raman and the Albano patents or even that such combination would have produced Applicants' claimed invention.

To establish a *prima facie* case of obviousness, however, "there must be some teaching, suggestion or motivation in the prior art to make the specific combination that was made by the applicant." *In re Dance*, 160 F.3d 1339, 1343, 48 USPQ2d 1635, 1637 (Fed.

Cir. 1998). "In other words, the examiner must show reasons that the skilled artisan, confronted with the same problem as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in the manner claimed." *In re Rouffet*, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1458 (Fed. Cir. 1998).

Neither the Raman patent nor the Albano reference is sufficient to provide the requisite art-suggested motivation to combine their teachings in such a way as to produce Applicants' claimed invention. Moreover, such combination is incapable of disclosing each and every recitation of Applicants' claimed invention.

Applicants' claimed invention defines a process for preparing a porous film comprising (1) forming a composite film onto at least a portion of a substrate wherein the composite film comprises at least one ***silicon-based*** structure-forming material and at least one pore-forming material; and (2) exposing the composite film to at least one ultraviolet light source within a non-oxidizing atmosphere for a time sufficient to remove at least a portion of the at least one pore-forming material contained therein and provide the porous film. Significantly, Applicants' claimed invention is defined such that the ***composite film*** is ***substantially free of Si-OH bonds***.

The composite films disclosed in the Raman patent are ***not*** substantially free of Si-OH bonds. Significantly, the composite films disclosed in the Raman patent are prepared by applying a wet coat of a structure-forming material prepared by co-polymerizing tetraethoxysilane (TEOS) and methyltriethoxysilane (MTES) dissolved in ethanol in a two-step acid catalyzed procedure (*see*, Raman at col. 8, lines 33 to 42). Such condensation reaction ***necessarily results*** in the formation of a polymer having Si-OH bonds (O'Neill Dec. at ¶¶ 12 to 14). In contrast, the silicon-based films of Applicant's claimed invention are typically deposited by a method that substantially avoids the formation of Si-OH bonds –

even if components such as, for example, TEOS and MTES are copolymerized in, for example, the vapor phase to form the film. The Albano reference, which also teaches the application of a wet condensation polymer (*see, e.g.*, Albano at [0064] to [0070]), doe not remedy this deficiency (O'Neill Dec. at ¶¶ 12 to 14). Accordingly, reconsideration and withdrawal of the rejection are requested respectfully.

Discussion of the Rejections Under 35 U.S.C. § 102(a)/ § 103(a)

Claims 1 to 4, 10, 12 to 13, 15, 17, 26 to 29, 32 to 35, and 37 to 40 have been rejected under 35 U.S.C. § 102(a) as allegedly anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as allegedly unpatentable over U.S. patent application Publication No. 2003/0003288 to Nakata et al. ("the Nakata reference"). Claims 5 to 9, 11, 16, and 18 to 25 have also been rejected as allegedly being unpatentable over the Nakata reference. Applicants respectfully traverse this rejection because (1) the Nakata reference does not disclose each and every element of Applicants' claimed invention; and (2) there is no evidence of record indicating that those of ordinary skill in the art at the time of the present invention would have been motivated to modify the teachings of the Nakata reference in such a way as to obtain Applicants' claimed invention.

In the first instance, the Nakata reference does not anticipate Applicants' claimed invention. Applicants' claimed invention defines a process for preparing a porous film comprising (1) forming a composite film onto at least a portion of a substrate wherein the composite film comprises at least one ***silicon-based*** structure-forming material and at least one pore-forming material; and (2) exposing the composite film to at least one ultraviolet light source within a non-oxidizing atmosphere for a time sufficient to remove at least a portion of the at least one pore-forming material contained therein and provide the porous film.

Significantly, Applicants' claimed invention is defined such that the ***composite film*** is ***substantially free of Si-OH bonds***.

The Nakata reference does not teach a composite film that is ***substantially free of Si-OH bonds***. The Nakata reference teaches that the siloxane resins discloses therein are sol-gel type polymers (*see, e.g.*, Nakata at page 4, paragraph [0081]). Indeed, the sol-gel type polymers of the Nakata reference all include Si-OH bonds by virtue of the acid-catalyzed condensation/hydrolysis reaction employed to make them (*see, e.g.*, id. at page 5, paragraphs [0096] to [0098]) (O'Neill Dec. at ¶¶ 12 to 14).

The Action mistakenly attributes more to the Nakata reference's disclosure than what it really teaches. In this regard, although the Nakata reference acknowledges problems associated with "highly hydroscopic SiOH groups" (id. at page 1, paragraph [0017]), the Nakata reference does not go so far as to affirmatively state that its process ***solves*** the problem, nor does Nakata state ***how*** it solves the problem; rather, the Nakata reference merely states that the invention disclosed therein "***can*** solve the problem of highly hygroscopic characteristic presented in conventional porous films made of a siloxane resin" (id. at paragraph [0020]). Significantly, the Nakata reference is ***completely silent*** with regard to whether the alleged problem was solved because the siloxane resins disclosed therein are ***not*** substantially free of SiOH bonds. Accordingly, the Nakata reference does not teach or, in the alternative, render obvious Applicants' claimed invention.

Claims 1 to 30, 32 to 35, and 37 to 41 have been rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over the Raman patent in view of the Albano reference, and further in view of the Nakata reference. As discussed above, neither the Raman patent nor the Albano reference is sufficient to provide the requisite art-suggested motivation to combine their teachings in such a way as to obtain Applicants' claimed invention. Moreover, as

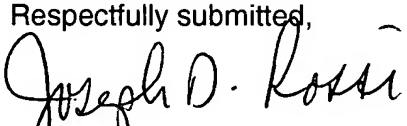
detailed above, the Nakata reference is insufficient to remedy this deficiency. Accordingly, reconsideration and withdrawal of the rejection are requested respectfully.

Conclusion

Applicants believe that the foregoing constitutes a complete and full response to the Action of record. Applicants respectfully submit that this application is now in condition for allowance. Accordingly, an indication of allowability and an early Notice of Allowance are respectfully requested.

The Commissioner is hereby authorized to charge the fee required and any additional fees that may be needed to Deposit Account No. 01-0493 in the name of Air Products and Chemicals, Inc.

Respectfully submitted,



Joseph D. Rossi
Registration No. 47,038
7201 Hamilton Boulevard
Allentown, PA 18195-1501
(610) 481-8169